

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1       Claim 1 (currently amended): An electrical power  
2 conversion system for a vehicle, comprising:  
3            a load receiver for powering and controlling a vehicle  
4              load leads, said load receiver comprising:  
5                a decoupler for decoupling a communication signal  
6                  from an vehicle DC electrical power bus, said  
7                  communication signal containing encoded load  
8                  information, wherein the decoupler electrically  
9                  isolates the communication signal from the  
10                 power bus signal;  
11            a data receiver for receiving the communication  
12              signal from the decoupler and deriving load  
13              data therefrom;  
14            a data decoder for decoding the load data received  
15              from the data receiver and converting it the  
16              load data to a converter signal according to  
17              the encoded load information;  
18            and a power converter for receiving the converter  
19              signal from the data decoder for controlling an  
20              operation of one or both of the converter and  
21              the load, wherein the power converter converts  
22              an electrical power bus input of a first  
23              voltage into a power output at a second voltage  
24              for powering the leads vehicle load.

1       Claim 2 (currently amended): An electrical power  
2 conversion system according to claim 1, further comprising:  
3            a load transmitter for transmitting encoded vehicle load  
4              information in a transmitted communication signal

5                   onto the electrical power bus, said load transmitter  
6                   comprising:  
7                    a data encoder for encoding the vehicle load  
8                    information into load data;  
9                    a data transmitter for receiving the load data from  
10                  the data encoder and generating and  
11                  transmitting [[a]] the communication signal;  
12                  and  
13                  a coupler for receiving the communication signal  
14                  from the data transmitter and coupling the  
15                  communication signal onto the vehicle DC  
16                  electrical power bus.

1                 Claim 3 (currently amended): An electrical power  
2 conversion system according to claim 1, wherein:  
3                 the load-information contains load state and load address  
4                 information; and further wherein  
5                 the power converter sets the state of the vehicle load  
6                 according to the converter signal when the power  
7                 converter is powering the vehicle load associated  
8                 with that load address.

1                 Claim 4 (currently amended): An electrical power  
2 conversion system according to claim 2, wherein  
3                 the load-information contains load state and load address  
4                 information; and further wherein  
5                 the power converter sets the state of the vehicle load  
6                 according to the converter signal when the power  
7                 converter is powering the vehicle load associated  
8                 with that load address.

1                 Claim 5 (currently amended): An electrical power  
2 conversion system according to claim 2 further comprising:

3       a data encoder for encoding return load information from  
4                 one or both of the power converter or and the load  
5                 into load data;  
6        a load return transmitter for generating and transmitting  
7                 a return communication signal from the return load  
8                 data from the data encoder; and  
9        a second coupler for coupling the return communication  
10                 signal data received from the load return  
11                 transmitter to the vehicle DC electric power bus.

1       Claim 6 (original): An electrical power conversion  
2 system according to claim 5, wherein  
3       the load information contains vehicle load state and load  
4                 address information; and further wherein  
5       the power converter sets the state of the vehicle load  
6                 according to the converter signal when the power  
7                 converter is powering the vehicle load associated  
8                 with that load address.

1       Claim 7 (currently amended): An electrical power  
2 conversion system according to claim 1 for powering vehicle  
3 loads, wherein the first voltage is about thirty-six volts to  
4 forty-two volts (36V-42V) and the second voltage is about  
5 twelve volts to fourteen volts (12V-14V).

1       Claim 8 (currently amended): An electrical power  
2 conversion system according to claim 2 for powering vehicle  
3 loads, wherein the first voltage is about thirty-six volts to  
4 forty-two volts (36V-42V) and the second voltage is about  
5 twelve volts to fourteen volts (12V-14V).

1       Claim 9 (currently amended): An electrical power  
2 conversion system according to claim 3 for powering vehicle  
3 loads, wherein the first voltage is about thirty-six volts to  
4 forty-two volts (36V-42V) and the second voltage is about

5 twelve volts to fourteen volts (12V10-14V) .

1       Claim 10 (currently amended): An electrical power  
2 conversion system according to claim 4 for powering vehicle  
3 loads, wherein the first voltage is about thirty-six volts to  
4 forty-two volts (36V-42V) and the second voltage is about  
5 twelve volts to fourteen volts (12V-14V) .

1       Claim 11 (currently amended): An electrical power  
2 conversion system according to claim 5 for powering vehicle  
3 loads, wherein the first voltage is about thirty-six volts to  
4 forty-two volts (36V-42V) and the second voltage is about  
5 twelve volts to fourteen volts (12V-14V) .

1       Claim 12 (currently amended): An electrical power  
2 conversion system according to claim 6 for powering vehicle  
3 loads, wherein the first voltage is about thirty-six volts to  
4 forty-two volts (36V-42V) and the second voltage is about  
5 twelve volts to fourteen volts (12V-14V) .

1       Claim 13 (currently amended): An electrical power  
2 conversion system for powering vehicle loads, comprising:  
3            a load transmitter for transmitting encoded load  
4              information in a communication signal onto a vehicle  
5              electrical power bus operating at about thirty-six  
6              volts to forty-two volts (36V-42V) DC, said load  
7              transmitter comprising:  
8              a data encoder for encoding load state and load  
9                 address information into encoded data;  
10             a frequency shift keying transmitter for receiving  
11                 the encoded data from the data encoder and  
12                 transmitting the encoded data as an FSK  
13                 communication signal; and  
14             a coupler for coupling the FSK communication signal  
15                 onto the vehicle electrical power bus;

16           and

17           a load receiver for controlling vehicle loads and

18           providing said vehicle loads with electrical

19           power at about twelve volts to fourteen volts

20           (12V-14V), said load receiver comprising:

21           a decoupler for decoupling the FSK

22           communication signal from ~~an~~ the vehicle

23           electrical power bus, said FSK

24           communication signal containing the

25           encoded load state and load address

26           information, wherein the decoupler

27           electrically isolates the FSK

28           communication signal from the power

29           signal;

30           a frequency shift keying receiver for receiving

31           the FSK communication signal from the

32           decoupler and deriving encoded data from

33           the FSK communication signal;

34           a data decoder for decoding the encoded data

35           received from the frequency shift keying

36           receiver and converting ~~it~~ the encoded

37           data into a converter signal according to

38           the decoded load state and load address

39           information; and

40           a power converter for converting the vehicle

41           electrical bus power signal of about

42           thirty-six volts to forty-two volts (36V-

43           42V) DC into a load power output

44           equivalent to about twelve volts to

45           fourteen volts (12V-14V) for powering

46           vehicle electrical loads, wherein the

47           power converter sets the state of [[a]]

48           the load in accordance with the converter

49           signal when the power converter is

powering [[a]] the load associated with that load address.

1       Claim 14 (original): An electrical power conversion  
2 system for a vehicle electrical system according to claim 13,  
3 wherein the power converter contains a DC-to-DC converter.

1       Claim 15 (original): An electrical power conversion  
2 system for a vehicle electrical system according to claim 13,  
3 wherein the power converter contains a DC-to-AC inverter.

1       Claim 16 (currently amended): An electrical power  
2 conversion system for powering vehicle loads, comprising:  
3       a load transmitter for transmitting encoded load  
4              information in a communication signal onto a vehicle  
5              electrical power bus operating at about thirty-six  
6              volts to forty-two volts (36V-42V) DC, said load  
7              transmitter comprising:  
8              a data encoder for encoding load state information  
9                  and load address information into encoded data;  
10             and  
11        a frequency shift keying transmitter for receiving  
12              the encoded data from the data encoder and  
13              transmitting the encoded data as an FSK  
14              communication signal onto a vehicle  
15              communication bus;  
16        and  
17        a load receiver for controlling vehicle loads and  
18              providing said vehicle loads with electrical power  
19              at about twelve volts to fourteen volts (12V-14V),  
20              said load receiver comprising:  
21              a frequency shift keying receiver for receiving the  
22              communication signal from the vehicle

23 communication bus and deriving encoded data  
24 from the FSK communication signal;  
25 a data decoder for decoding the encoded data  
26 received from the frequency shift keying  
27 receiver and converting ~~it~~ the encoded data  
28 into a converter signal according to the  
29 decoded load state and load address  
30 information; and  
31 a power converter for converting the vehicle  
32 electrical bus power signal of about thirty-six  
33 volts to forty-two volts (36V-42V) DC into a  
34 load power output equivalent to about twelve  
35 volts to fourteen volts (12V-14V) for powering  
36 vehicle electrical loads, wherein the power  
37 converter sets the state of [[a]] the load in  
38 accordance with the converter signal when the  
39 power converter is powering [[a]] the load  
40 associated with that load address.

1 Claim 17 (original): An electrical power conversion  
2 system for a vehicle electrical system according to claim 16,  
3 wherein the power converter contains a DC-to-DC converter.

1 Claim 18 (original): An electrical power conversion  
2 system for a vehicle electrical system according to claim 16,  
3 wherein the power converter contains a DC-to-AC inverter.

1 Claim 19 (currently amended): An electrical power  
2 conversion system for a vehicle, comprising:  
3 a power converter connected to an a vehicle electrical  
4 power bus that provides DC current, said power  
5 converter for converting the bus voltage into a load  
6 voltage different from the bus voltage, said load  
7 voltage for powering a vehicle load; and

8       a data receiver for receiving an encoded communication  
9           signal from the electrical power bus, said encoded  
10          communication signal including encoded load  
11          information for controlling an operation of one or  
12          both of said power converter and said vehicle load.

1       Claim 20 (currently amended): The electrical power  
2 conversion system of claim 19, further comprising a data  
3 decoder for decoding the encoded communication signal and  
4 converting it said communication signal to a control signal  
5 for said controlling an operation of one or both of said power  
6 converter and said load, wherein said controlling is done  
7 according to said load information.